

FIG. 1

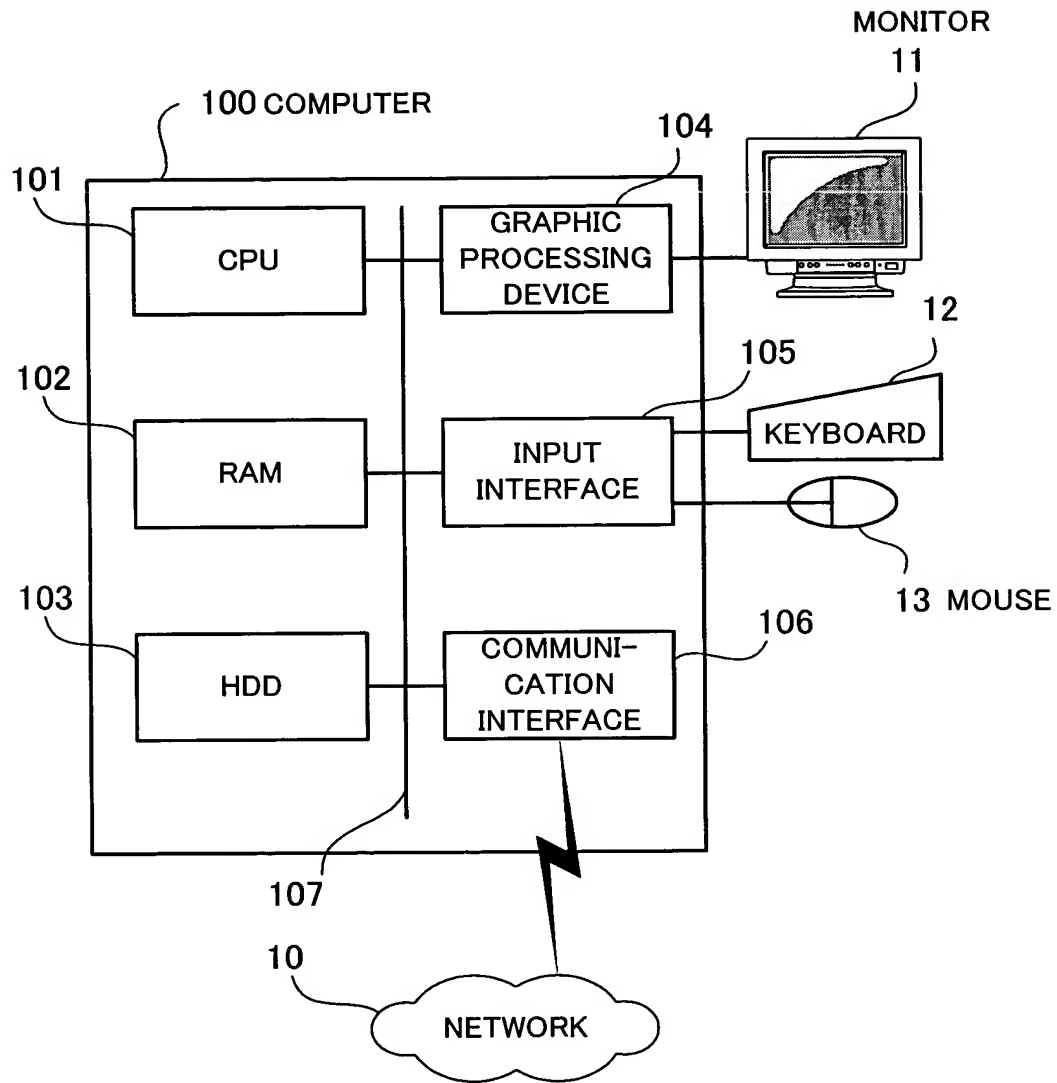


FIG. 2

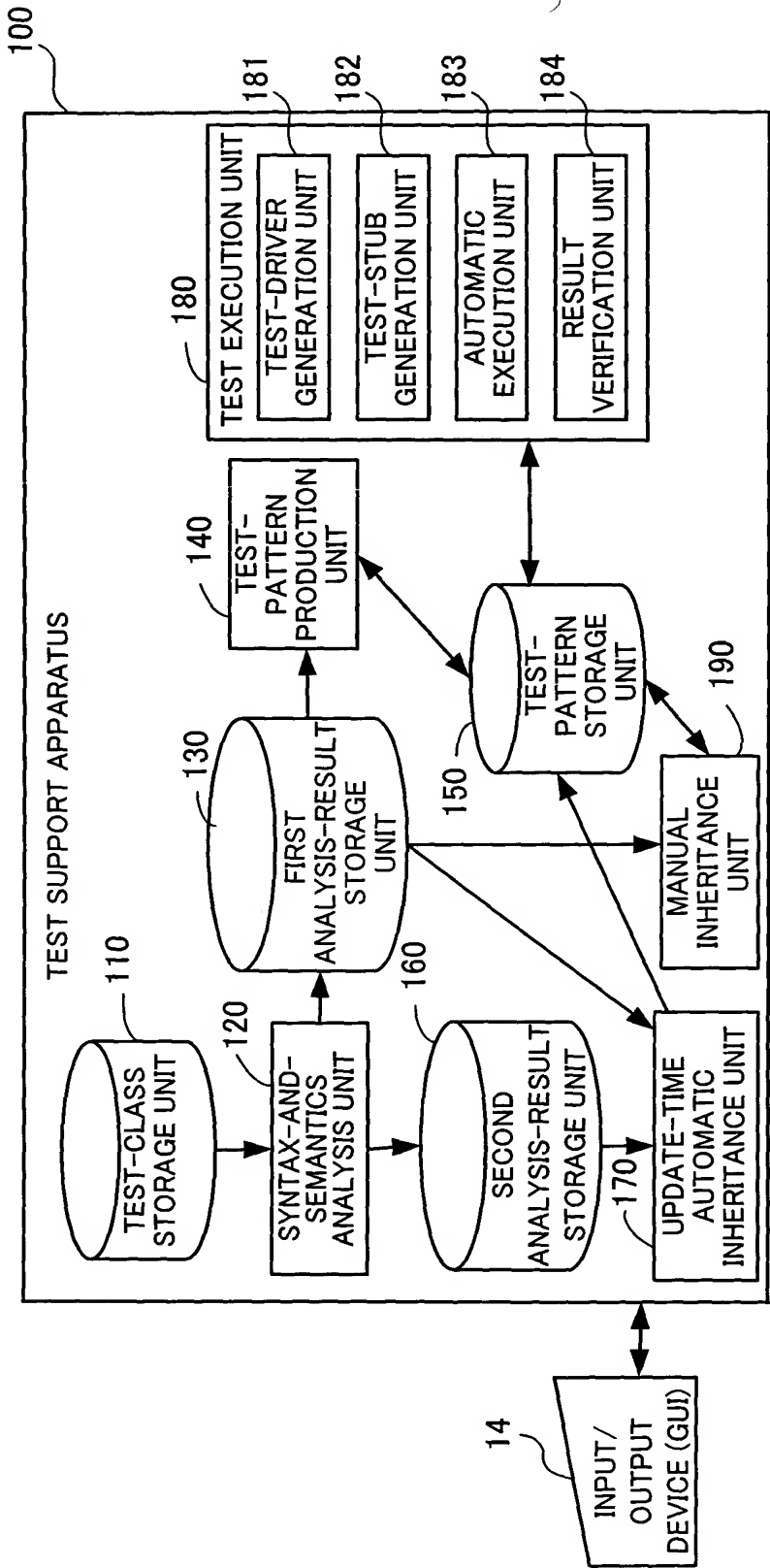


FIG. 3

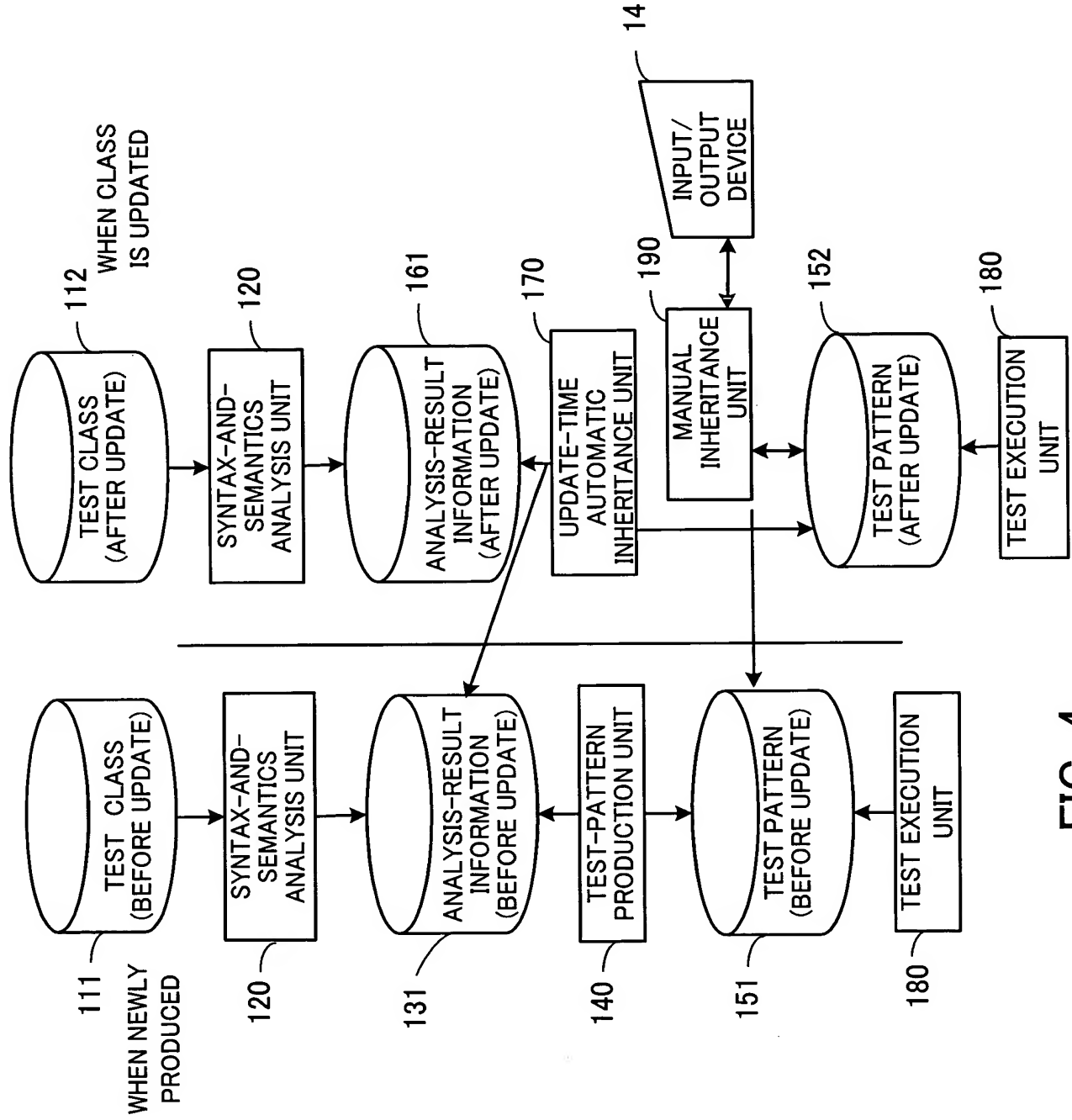


FIG. 4

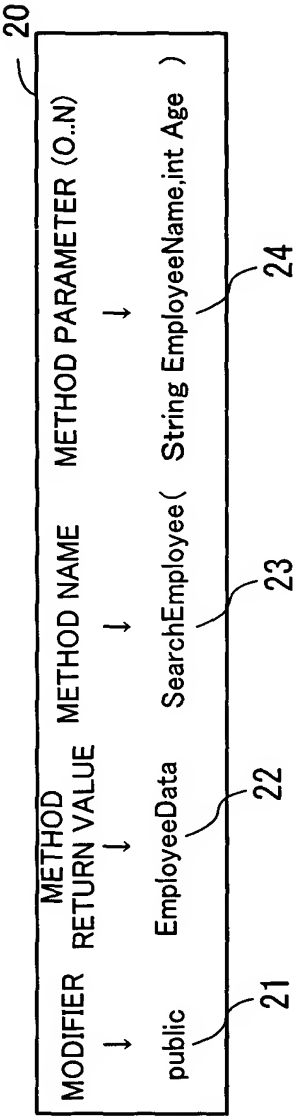


FIG. 5

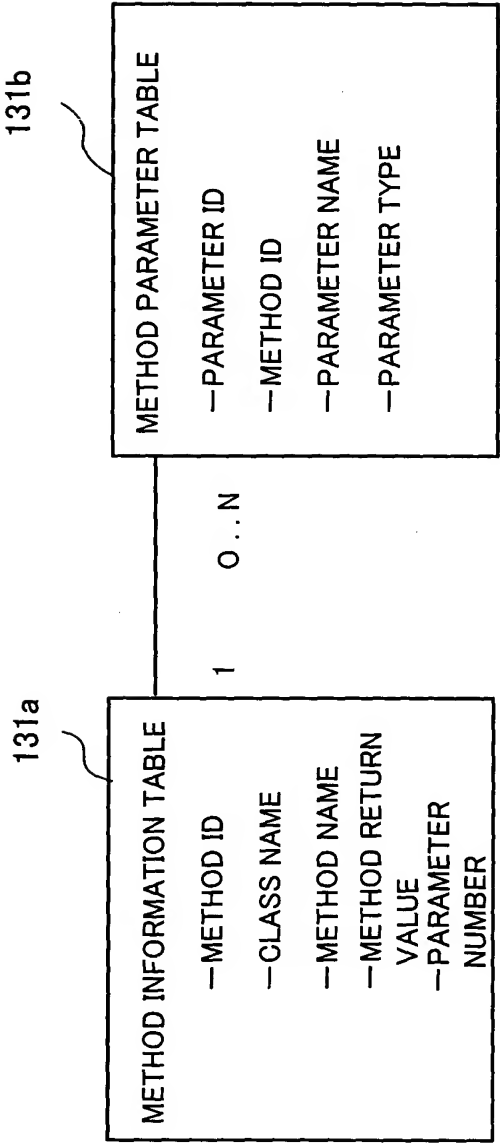


FIG. 6

111

```
public class Employee extends Super TestClass{  
:  
// METHOD 1  FUNCTION OF SEARCHING FOR EMPLOYEE BASED  
ON ENPLLOYEE NAME 111a  
public EmployeeData searchEmployee(String EmployeeName){  
:  
}  
// METHOD 2  FUNCTION OF SEARCHING FOR EMPLOYEE BASED ON NAME  
AND AGE OF EMPLOYEE 111b  
public EmployeeData searchEmployee(String EmployeeName,int age,int code){  
:  
}  
// METHOD 3  FUNCTION OF SEARCHING FOR EMPLOYEE BASED ON NAME,  
AGE, AND SECTION CODE OF EMPLOYEE 111c  
public EmployeeData searchEmployee(String EmployeeName,int Age,int code){  
:  
}  
// METHOD 4  FUNCTION OF SEARCHING FOR EMPLOYEE BASED ON  
NAME AND SECTION CODE OF EMPLOYEE 111d  
public EmployeeData searchEmployee(String EmployeeName,int code){  
:  
}  
// METHOD 5  FUNCTION OF UPDATING INFORMATION ON EMPLOYEE  
BASED ON EMPLOYEE CODE 111e  
public boolean updateEmployee(String EmployeeName,int age,int code){  
:  
}  
// METHOD 6  FUNCTION OF DELETING INFORMATION ON EMPLOYEE  
BASED ON EMPLOYEE CODE  
public int deleteEmployee(int EmployeeNo){ 111f  
:  
}  
}
```

FIG. 7

131a

METHOD ID	CLASS NAME	METHOD NAME	RETURN VALUE NUMBER	PARAMETER NUMBER
1	Employee	searchEmployee	EmployeeData	1
2	Employee	searchEmployee	EmployeeData	2
3	Employee	searchEmployee	EmployeeData	3
4	Employee	searchEmployee	EmployeeData	2
5	Employee	updateEmployee	boolean	3
6	Employee	deleteEmployee	int	1

FIG. 8

131b

PARAMETER ID	MEHOD ID	PARAMETER NAME	PARAMETER TYPE
1	1	EmployeeName	String
2	2	EmployeeName	String
3	2	age	int
4	3	EmployeeName	String
5	3	age	int
6	3	code	int
7	4	EmployeeName	String
8	4	code	int
9	5	EmployeeName	String
10	5	age	int
11	5	code	int
12	6	EmployeeNo	int

FIG. 9

151a

No	METHOD NAME	PARAMETER	NORMAL/ ABNORMAL	RETURN VALUE	VIEWPOINT IN TEST
M1	searchEmployee	EmployeeName		Employee Data	
M1-1	searchEmployee	"F-TSU, TARO"	NORMAL	SEARCH RESULT	TEST OF NORMAL SYSTEM
M1-2	searchEmployee	"	ABNORMAL	Null	ABNORMAL SYSTEM IN WHICH NAME IS BLANK
M1-3	searchEmployee	Null	ABNORMAL	Null	ABNORMAL SYSTEM IN WHICH NAME IS NULL

FIG. 10

151b

No	METHOD NAME	PARAMETER		NORMAL/ ABNORMAL	RETURN VALUE	VIEWPOINT OF TEST
		EmployeeName	Age			
M2	searchEmployee	EmployeeName	Age		Employee Data	
M2-1	searchEmployee	"F-TSU, TARO"	29	NORMAL	SEARCH RESULT	TEST OF NORMAL SYSTEM
M2-2	searchEmployee	"	29	ABNORMAL	Null	ABNORMAL SYSTEM IN WHICH NAME IS BLANK
M2-3	searchEmployee	Null	29	ABNORMAL	Null	ABNORMAL SYSTEM IN WHICH NAME IS NULL
M2-4	searchEmployee	"F-TSU, HANAKO"	0	ABNORMAL	Null	ABNORMAL SYSTEM IN WHICH AGE IS 0
M2-5	searchEmployee	F-TSU, HANAKO	10	ABNORMAL	Null	OUT OF RANGE OF EMPLOYEES' AGES
M2-6	searchEmployee	"F-TSU, HANAKO"	65	ABNORMAL	Null	OUT OF RANGE OF EMPLOYEES' AGES
M2-7	searchEmployee	"F-TSU, HANAKO"	Null	ABNORMAL	Null	AGE IS NULL

FIG. 11

151c

No	METHOD NAME	PARAMETER		NORMAL/ ABNORMAL	RETURN VALUE	VIEPOINT IN TEST
M3	searchEmployee	EmployeeName	Age			
M3-1	searchEmployee	"F-TSU TARO"	29	NORMAL	SEARCH RESULT	TEST OF NORMAL SYSTEM
M3-2	searchEmployee	"	29	ABNORMAL	Null	ABNORMA SYSTEM IN WHICH NAME IS BLANK
M3-3	searchEmployee	Null	29	ABNORMAL	Null	ABNORMAL SYSTEM IN WHICH NAME I S NULL
M3-4	searchEmployee		0	ABNORMAL	Null	ABNORMAL SYSTEM IN WHICH AGE IS 0
M3-5	searchEmployee	"F-TSU, HANAKO"	10	ABNORMAL	Null	OUT OF RANGE OF EMPLOYEES' AGES
M3-6	searchEmployee	"F-TSU, HANAKO"	65	ABNORMAL	Null	OUT OF RANGE OF EMPLOYEES' AGE
M3-7	searchEmployee	"F-TSU, HANAKO"	Null	ABNORMAL	Null	AGE IS NULL
M3-8	searchEmployee	"F-TSU, HANAKO"	29	ABNORMAL	Null	EMPLOYEE CODE IS 0
M3-9	searchEmployee	"F-TSU, HANAKO"	29	ABNORMAL	Null	EMPLOYEE CODE IS NULL
M3-10	searchEmployee	Null	Null	ABNORMAL	Null	NAME AND AGE ARE NULL

FIG.12

151d

No	METHOD NAME	PARAMETER	NORMAL/ ABNORMAL	RETURN VALUE	VIEWPOINT IN TEST
M4-1	searchEmployee	EmployeeName			
M4-1	searchEmployee	"F-TSU, TARO"	NORMAL	SEARCH RESULT	TEST OF NORMAL SYSTEM
M4-2	searchEmployee	"	ABNORMAL	Null	ABNORMAL SYSTEM IN WHICH NAME IS BLANK
M4-3	searchEmployee	Null	ABNORMAL	Null	ABNORMAL SYSTEM IN WHICH NAME IS NULL
M4-4	searchEmployee	"F-TSU, HANAKO"	ABNORMAL	Null	SECTION CODE IS 0
M4-5	searchEmployee	"F-TSU, HANAKO"	ABNORMAL	Null	SECTION CODE IS NULL
M4-6	searchEmployee	Null	ABNORMAL	Null	NAME AND AGE ARE NULL

FIG. 13

151e

No	METHOD NAME	PARAMETER			NORMAL/ ABNORMAL	RETURN VALUE	VIEWPOINT IN TEST
M5	updateEmployee	EmployeeName	Age	code			
M5-1	updateEmployee	"F-TSU, TARO"	29	12345	NORMAL	SEARCH RESULT	TEST OF NORMAL SYSTEM
M5-2	updateEmployee	"	29	12345	ABNORMAL	Null	ABNORMAL SYSTEM IN WHICH NAME IS BLANK
M5-3	updateEmployee	Null	29	12345	ABNORMAL	Null	ABNORMAL SYSTEM IN WHICH NAME IS NULL
M5-4	updateEmployee	"F-TSU, HANAKO"	0	12345	ABNORMAL	Null	ABNORMAL SYSTEM IN WHICH AGE IS 0
M5-5	updateEmployee	"F-TSU, HANAKO"	10	12345	ABNORMAL	Null	OUT OF RANGE OF EMPLOYEES' AGES
M5-6	updateEmployee	"F-TSU, HANAKO"	65	12345	ABNORMAL	Null	OUT OF RANGE OF EMPLOYEES' AGES
M5-7	updateEmployee	"F-TSU, HANAKO"	Null	12345	ABNORMAL	Null	AGE IS NULL
M5-8	updateEmployee	"F-TSU, HANAKO"	29	0	ABNORMAL	Null	EMPLOYEE CODE IS 0
M5-9	updateEmployee	"F-TSU, HANAKO"	29	Null	ABNORMAL	Null	EMPLOYEE CODE IS NULL
M5-10	updateEmployee	Null	Null	Null	ABNORMAL	Null	EMPLOYEE CODE, NAME, AND AGE ARE NULL

FIG. 14

151f

No	METHOD OF NAME	PARAMETER	NORMAL/ ABNORMAL	RETURN VALUE	VIEWPOINT IN TEST
M6	deleteEmployee	code		Boolean	
M6-1	deleteEmployee	12345	NORMAL	True	TEST OF NORMAL SYSTEM
M6-2	deleteEmployee	0	ABNORMAL	False	ABNORMAL SYSTEM IN WHICH EMPLOYEE CODE IS 0
M6-3	deleteEmployee	Null	ABNORMAL	False	ABNORMAL SYSTEM IN WHICH EMPLOYEE CODE IS NULL
M6-4	deleteEmployee	11111	ABNORMAL	False	ABNORMAL SYSTEM IN WHICH EMPLOYEE CODE IS NOT APPLICABLE

FIG. 15

112

```
public class Employee extends SuperTestClass{  
    // 1ST METHOD  FUNCTION OF SEARCHING FOR EMPLOYEE BASED ON EMPLOYEE NAME  
    private EmployeeData searchEmployee(String EmployeeName){  
        :  
    }  
    // 2ND METHOD  FUNCTION OF SEARCHING FOR EMPLOYEE BASED ON NAME AND AGE OF  
    // EMPLOYEE  
    public EmployeeData[ ] searchEmployee(String EmployeeName,int age){  
        :  
    }  
    // 3RD METHOD  FUNCTION OF SEARCHING FOR EMPLOYEE BASED ON NAME, AGE,  
    // AND SECTION CODE OF EMPLOYEE  
    public EmployeeData searchEmployee(String EmployeeName,long Age,int  
    section,Boolean retire){  
        :  
    }  
    // 4TH METHOD  FUNCTION OF SEARCHING FOR EMPLOYEE BASED ON NAME AND  
    // SECTION CODE OF EMPLOYEE  
    public EmployeeData[ ] searchEmployee(String EmployeeName,int section){  
        :  
    }  
    // 5TH METHOD  FUNCTION OF UPDATING INFORMATION ON EMPLOYEE BASED ON  
    // EMPLOYEE CODE  
    public boolean updateEmployeebyNo (String EmployeeName,int age,int code){  
        :  
    }  
    // 6TH METHOD  FUNCTION OF DELETING INFORMATION ON EMPLOYEE BASED ON  
    // EMPLOYEE CODE  
    public int deleteEmployeebyNo (int EmployeeNo,StringEmployeeName){  
        :  
    }  
}
```

FIG. 16

161a

METHOD ID	CLASS NAME	METHOD NAME	RETURN VALUE TYPE	PARAMETER NUMBER
1	Employee	searchEmployee	EmployeeData	1
2	Employee	searchEmployee	EmployeeData[]	2
3	Employee	searchEmployee	EmployeeData	4
4	Employee	searchEmployee	EmployeeData[]	2
5	Employee	updateEmployeebyNo	Boolean	3
6	Employee	deleteEmployeebyNo	int	1

FIG. 17

161b

PARAMETER ID	METHOD ID	PARAMETER NAME	PARAMETER TYPE
1	1	EmployeeName	String
2	2	EmployeeName	String
3	2	Age	int
4	3	EmployeeName	String
5	3	Age	Long
6	3	Section	int
7	3	Retire	Boolean
8	4	EmployeeName	String
9	4	Section	int
10	5	EmployeeName	String
11	5	Age	int
12	5	Code	int
13	6	EmployeeNo	int
14	6	EmployeeName	String

FIG. 18

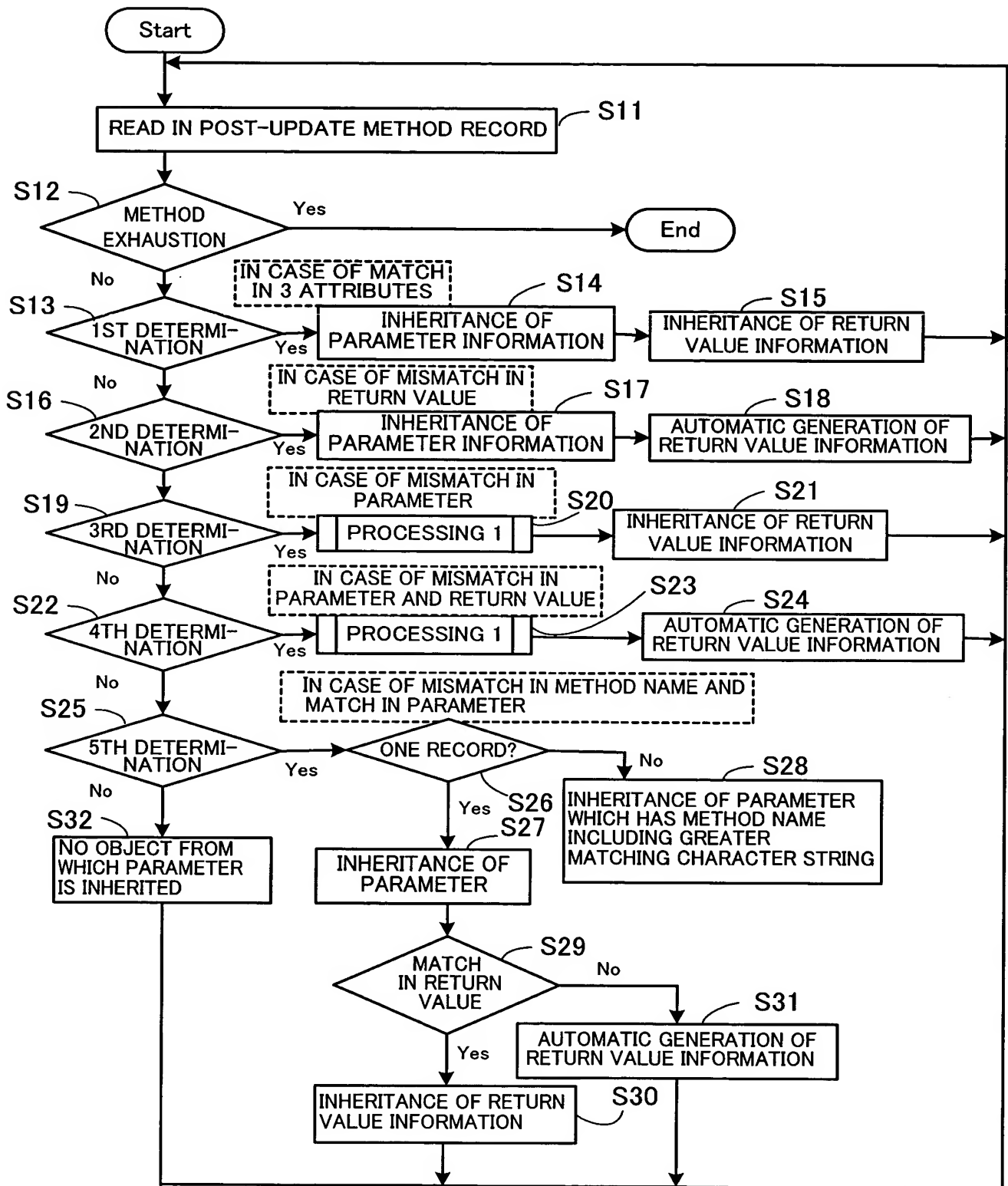


FIG. 19

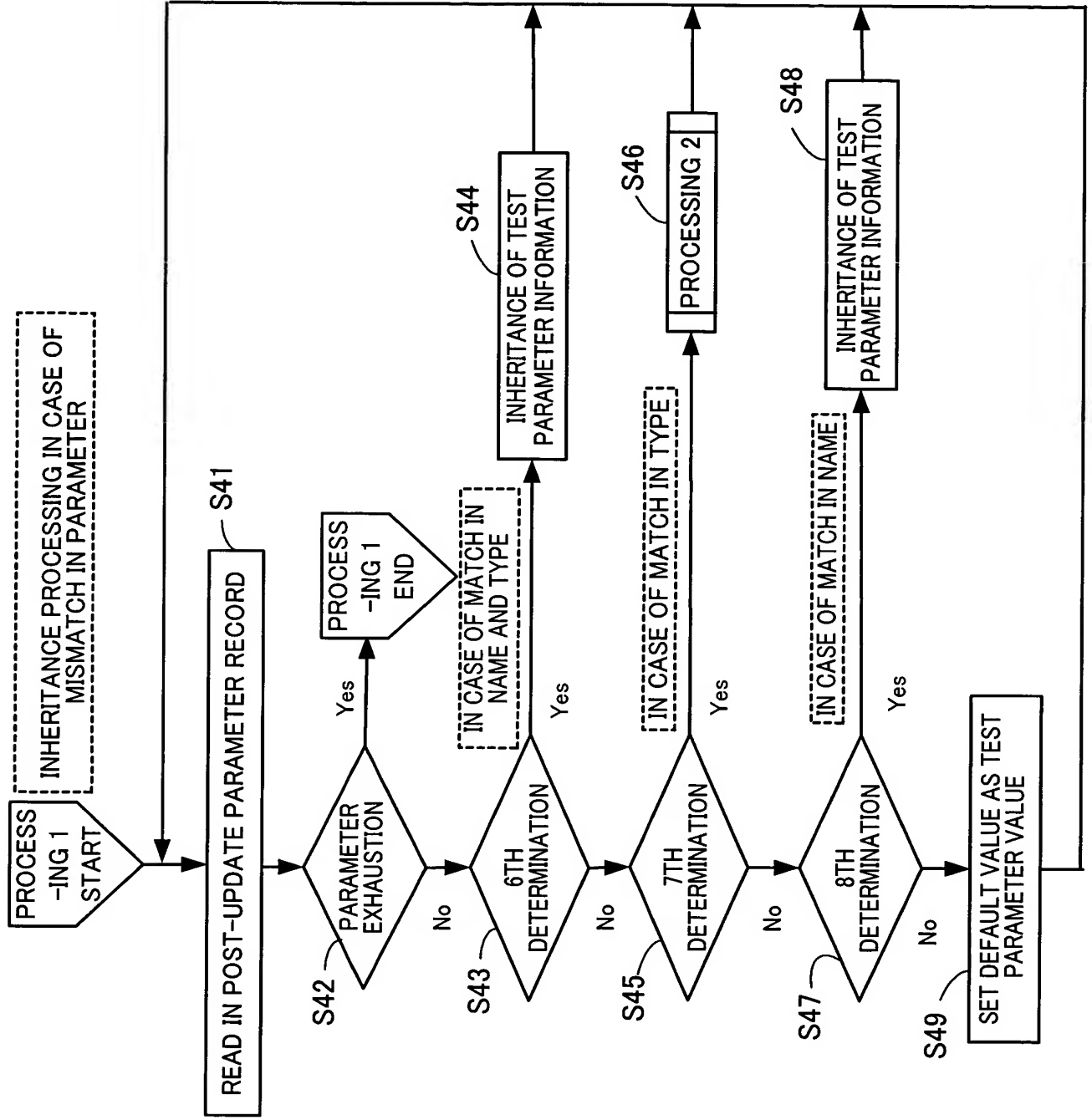


FIG. 20

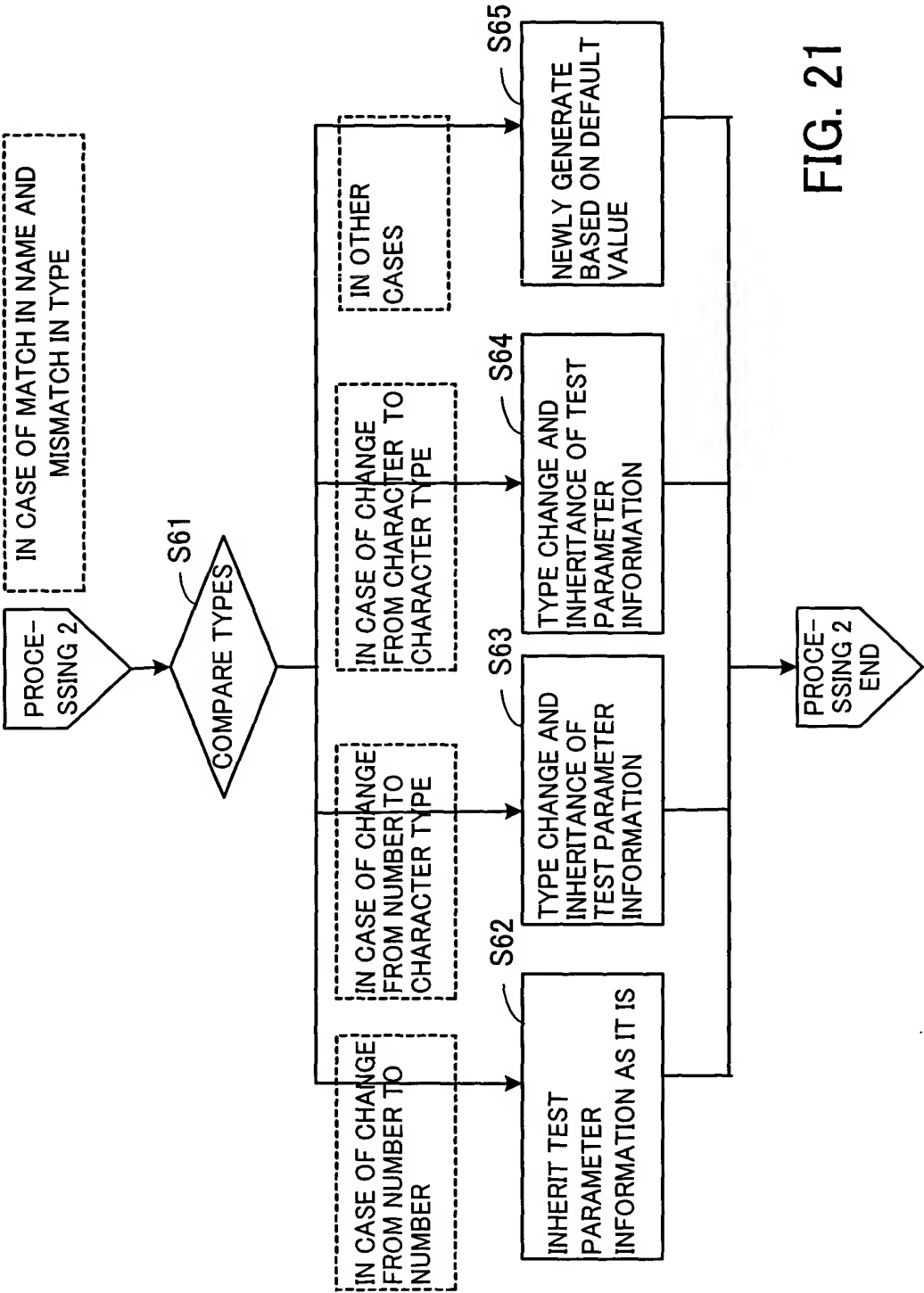


FIG. 21

	METHOD NAME	PARAMETER	RETURN VALUE
1ST DETERMINATION	O	O	O
2ND DETERMINATION	O	O	x
3RD DETERMINATION	O	x	O
4TH DETERMINATION	O	x	x
5TH DETERMINATION	x	O	O
	x	O	x

FIG. 22

NAME OF EXAMPLE	DETERMINATION	INHERITED TEST CASE	UNINHERITED TEST CASE
1ST METHOD	1ST DETERMINATION: COMPLETE MATCH IN THREE ATTRIBUTES	M1-1 ~ M1-3	NONE
2ND METHOD	2ND DETERMINATION: MISMATCH IN RETURN VALUE	M2-1 ~ M2-7	NONE
3RD METHOD	3RD DETERMINATION: MISMATCH IN PARAMETER	M3-1 ~ M3-10	NONE
4TH METHOD	4TH DETERMINATION: MISMATCH IN PARAMETER AND RETURN VALUE	M4-1 ~ M4-6	NONE
FIFTH METHOD	5TH DETERMINATION: MISMATCH IN PARAMETER NAME	M5-1 ~ M5-10	NONE
6TH METHOD	UNINHERITABLE BASE ON THE DETERMINATIONS	NONE	M6-1 ~ M6-4

FIG. 23

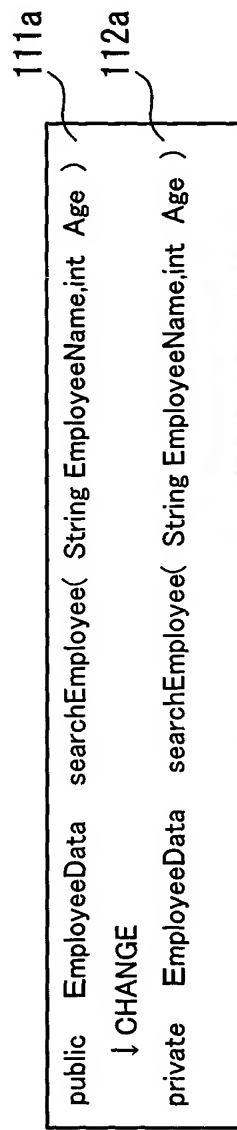


FIG. 24

	METHOD NAME	PARAMETER	RETURN VALUE	OTHERS
BEFORE CHANGE	searchEmployee	String EmployeeName, int Age	EmployeeData	public
AFTER CHANGE	searchEmployee	String EmployeeName, int Age	EmployeeData	private

FIG. 25

111b

```
public EmployeeData searchEmployee( String EmployeeName,int Age )
```

↓ CHANGE

112b

```
public EmployeeData[] searchEmployee( String EmployeeName,int Age )
```

FIG. 26

	METHOD NAME	PARAMETER	RETURN VALUE	OTHERS
BEFORE CHANGE	searchEmployee	String EmployeeName, int Age	EmployeeData	Public
AFTER CHANGE	searchEmployee	String EmployeeName, int Age	EmployeeData[]	public

FIG. 27

↓ SET DEFAULT VALUE (NULL)

152b

No	METHOD NAME	PARAMETER		NORMAL/ ABNORMAL	RETURN VALUE	VIEWPOINT IN TEST
		EmployeeName	Age			
M2-1	searchEmployee	"F-TSU, TARO"	29	NORMAL	SEARCH RESULT	TEST OF NORMAL SYSTEM
M2-2	searchEmployee	" "	29	ABNORMAL	Null	ABNORMAL SYSTEM IN WHICH NAME IS BLANK
M2-3	searchEmployee	Null	29	ABNORMAL	Null	ABNORMAL SYSTEM IN WHICH NAME IS NULL
M2-4	searchEmployee	"F-TSU, HANAKO"	0	ABNORMAL	Null	ABNORMAL SYSTEM IN WHICH AGE IS 0
M2-5	searchEmployee	"F-TSU, HANAKO"	10	ABNORMAL	Null	OUT OF RANGE OF EMPLOYEES' AGES
M2-6	searchEmployee	"F-TSU, HANAKO"	65	ABNORMAL	Null	OUT OF RANGE OF EMPLOYEES' AGES
M2-7	searchEmployee	"F-TSU, HANAKO"	Null	ABNORMAL	Null	AGE IS NULL

FIG. 28

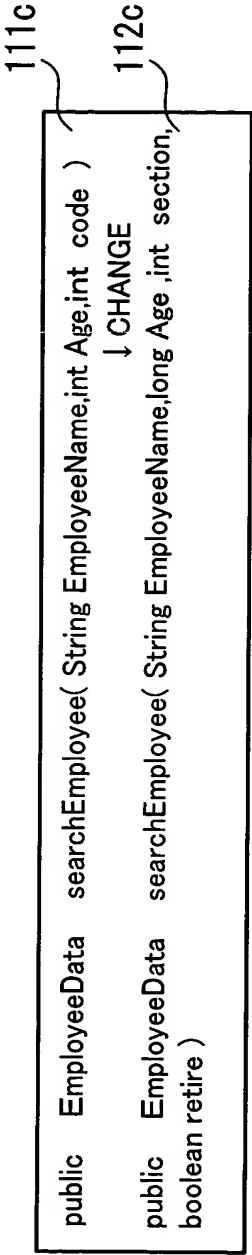


FIG. 29

	METHOD NAME	PARAMETER	RETURN VALUE	OTHERS
BEFORE CHANGE	searchEmployee	String EmployeeName, int Age, int code	EmployeeData	Public
AFTER CHANGE	searchEmployee	StringEmployeeName, long Age,int section, boolean retire	EmployeeData	Public

FIG. 30

152c

No.	METHOD PARAMETER				ABNORMAL/ NORMAL	RETURN VALUE	VIEWPOINT IN TEST
BEFORE CHANGE	EmployeeName (String)	Age (int)	Code(int)	NONE			
DETERMI- NATION	①MATCH IN BOTH	②MACHI IN NAME	③MATCH IN TYPE	④MISMATCH GENERATION OF DEFAULT)			
AFTER CHANGE	EmployeeName (String)	Age (long)	Section (int)	Retire (Boolean)			
M3-1	"F-TSU, TARO"	29	12345	true	NORMAL	SEARCH RESULT	TEST OF NORMAL SYSTEM
M3-2	"	29	12345		ABNORMAL	Null	ABNORMAL SYSTEM IN WHICH NAME IS BLANK
M3-3	Null	29	12345		ABNORMAL	Null	ABNORMAL SYSTEM IN WHICH NAME IS NULL
M3-4	"F-TSU, HANAKO"	0	12345		ABNORMAL	Null	ABNORMAL SYSTEM IN WHICH AGE IS 0
M3-5	"F-TSU, HANAKO"	10	12345		ABNORMAL	Null	OUT OF RANGE OF EMPLOYEES' AGES
M3-6	"F-TSU, HANAKO"	65	12345		ABNORMAL	Null	OUT OF RANGE OF EMPLOYEES' AGES
M3-7	"F-TSU, HANAKO"	Null	12345		ABNORMAL	Null	AGE IS NULL
M3-8	"F-TSU, HANAKO"	29	0		ABNORMAL	Null	SECTION CODE IS 0
M3-9	"F-TSU, HANAKO"	29	Null		ABNORMAL	Null	SECTION CODE IS NULL
M3-10	Null	Null0			ABNORMAL	Null	NAME AND AGE ARE NULL

FIG. 31

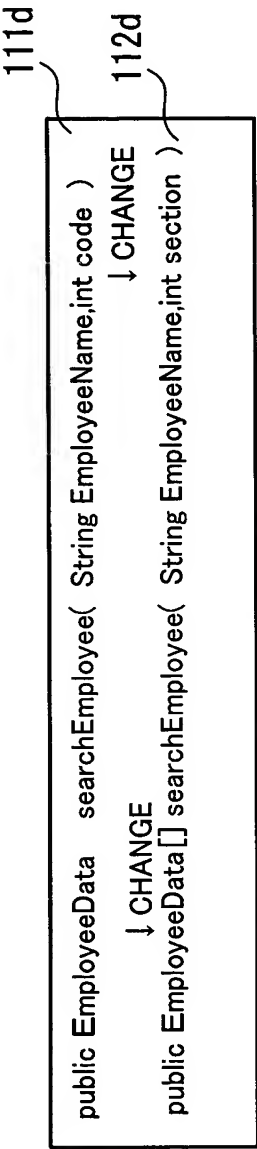


FIG. 32

	METHOD NAME	PARAMETER	RETURN VALUE	OTHERS
BEFORE CHANGE	searchEmployee	String EmployeeName, int code	EmployeeData	Public
AFTER CHANGE	searchEmployee	String EmployeeName, int section	EmployeeData[]	Public

FIG. 33

152d

No	METHOD PARAMETER		NORMAL/ ABNORMAL	RETURN VALUE	VIEWPOINT IN TEST
BEFORE CHANGE	EmployeeName (String)			EmployeeData	
DETERM- INATION	①MATCH IN BOTH	③MATCH IN TYPE			
AFTER CHANGE	EmployeeName (String)	Section (int)		EmployeeData []	
M4-1	"F-TSU, TARO"	12345	NORMAL	Null	TEST OF NORMAL SYSTEM
M4-2	"	12345	ABNORMAL	Null	ABNORMAL SYSTEM IN WHICH NAME IS BLANK
M4-3	Null	12345	ABNORMAL	Null	ABNORMAL SYSTEM IN WHICH NAME IS NULL
M4-4	"F-TSU, HANAKO"	0	ABNORMAL	Null	SECTION CODE IS 0
M4-9	"F-TSU, HANAKO"	Null	ABNORMAL	Null	SECTION CODE IS NULL
M4-6	Null	Null	ABNORMAL	Null	NAME AND AGE ARE NULL

FIG. 34

111e
public EmployeeData updateEmployee(String EmployeeName,long Age,int code)
↓ CHANGE
112e
public EmployeeData updateEmployeebyNo(String EmployeeName,long Age,int code)

FIG. 35

	METHOD NAME	PARAMETER	RETURN VALUE	OTHERS
BEFORE CHANGE	updateEmployee	String EmployeeName, long Age, int code	EmployeeData	Public
AFTER CHANGE	updateEmployeebyNo	String EmployeeName, long Age, int code	EmployeeData	Public

FIG. 36

152e

No	METHOD NAME	PARAMETER			NORMAL/ ABNORMAL	RETURN VALUE	VIEWPOINT IN TEST
	updateEmployee ebyNo	EmployeeName	Age	code			
M5-1	updateEmployee ebyNo	"F-TSU, TARO"	29	12345	NORMAL	SEARCH RESULT	TEST OF NORMAL SYSTEM
M5-2	updateEmployee ebyNo	"	29	12345	ABNORMAL	Null	ABNORMAL SYSTEM IN WHICH NAME IS BLANK
M5-3	updateEmployee ebyNo	Null	29	12345	ABNORMAL	Null	ABNORMAL SYSTEM IN WHICH NAME IS NULL
M5-4	updateEmployee ebyNo	"F-TSU, HANAKO"	0	12345	ABNORMAL	Null	ABNORMAL SYSTEM IN WHICH AGE IS 0
M5-5	updateEmployee ebyNo	"F-TSU, HANAKO"	10	12345	ABNORMAL	Null	OUT OF RANGE OF EMPLOYEES' AGES
M5-6	updateEmployee ebyNo	"F-TSU, HANAKO"	65	12345	ABNORMAL	Null	OUT OF RANE OF EMPLOYEES' AGES
M5-7	updateEmployee ebyNo	"F-TSU, HANAKO"	Null	12345	ABNORMAL	Null	AGE IS NULL
M5-8	updateEmployee ebyNo	"F-TSU, HANAKO"	29	0	ABNORMAL	Null	EMPLOYEE CODE IS 0
M5-9	updateEmployee ebyNo	"F-TSU, HANAKO"	29	Null	ABNORMAL	Null	EMPLOYEE CODE IS NULL
M5-10	updateEmployee ebyNo	Null	Null	Null	ABNORMAL	Null	EMPLOYEE CODE, NAME, AND AGE ARE NULL

FIG. 37

200

CONFIRMATION OF METHOD INHERITANCE

TestSrc_01.java is updated. Please assign a method, and confirm a method to be inherited.

METHOD INFORMATION AFTER UPDATE(I): 210

METHOD INFORMATION BEFORE UPDATE(F): 220

CLASS NAME (NEW)	METHOD NAME (NEW)	CLASS NAME (NEW)	METHOD NAME (NEW & OLD)	FILE NAME (OLD)
AAA	MethodA10	AAA	MethodA10	TestSrc_03.java
AAA	MethodA20	AAA	MethodA2(int A)	TestSrc_03.java
AAA	MethodA30	AAA	MethodA3(int B)	TestSrc_02.java
AAA	MethodA40			
AAA	MethodA50			
AAA	MethodA60			
AAA	MethodA70			
AAA	MethodA80			
AAA	MethodA90			
AAA	MethodAA0			

201

UP(U)

202

DOWN(L)

203

DELETE(D)

204

ADDITION(A)

230

UNINHERITED-METHOD LIST(M)

CLASS NAME	METHOD NAME	FILE NAME
AAA	MethodB10	TestSrc_1.java

Please choose from the "Uninherited-method List"(indicated on the right side) a method as an object to be inherited, and register the chosen method in the list of "Method Information Before Update"(indicated at the upper right).

205

OK

206

CANCEL

207

HELP

FIG. 38

[illegible]

PARAMETER DATA	VARIABLE DATA	
PARAMETER		
[-n param1		ATTRIBUTE VALUE
[-n param2		int 10
[-n field1		MyClass
[-n bbb		int[]
[-n tblField		ArrayList
[-n param3		hashmap
		boolean false

FIG. 39